

## LPDES PERMIT NO. LA0099236, AI No. 29851

LPDES STATEMENT OF BASIS  
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM  
(LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

- I. **Company/Facility Name:** Air Liquide Large Industries US LP  
Air Liquide - Addis Facility  
P.O. Box 167  
Addis, LA 70710-2824
- II. **Issuing Office:** Louisiana Department of Environmental Quality  
(LDEQ)  
Office of Environmental Services  
Post Office Box 4313  
Baton Rouge, Louisiana 70821-4313
- III. **Prepared By:** Jenniffer Sheppard  
Industrial Permits Section  
Water Permits Division  
Phone #: 225-219-3138  
E-mail: jenniffer.sheppard@la.gov
- Date Prepared:** March 3, 2009
- IV. **Permit Action/Status:**
- A. **Reason For Permit Action:**
- LDEQ proposes to reissue a Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46.
- LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.
- 40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.2301, 4901, and 4903.
- B. **NPDES permit -** NPDES permit effective date: NA  
NPDES permit expiration date: NA  
EPA has not retained enforcement authority.
- C. **LPDES permit -** Individual Permit - LA0099236  
LPDES permit effective date: March 1, 2004  
LPDES permit expiration date: February 28, 2009  
LPDES permit modification effective date: July 1, 2005.

Statement of Basis for  
 Air Liquide Large Industries US LP, Air Liquide - Addis Facility  
 LA0099236, AI No. 29851  
 Page 2

General Permit Coverage - LAR05N068

LPDES permit effective date: May 24, 2006

LPDES permit expiration date: April 30, 2011

- D. Application received on December 2, 2008. Additional information received via e-mail on February 9, 2009.

V. **Facility Information:**

- A. Location - 10099 Highway 1 South in Addis

- B. Applicant Activity -

According to the application, Air Liquide Large Industries US LP, Air Liquide - Addis Facility, is an air separation plant that takes atmospheric air, cleans and distills it. Through the use of cryogenic cooling processes, the air is separated into pure oxygen and nitrogen.

- C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903)

Guideline

Inorganic Chemicals-

Oxygen and Nitrogen

Daily Production -

Oxygen = 3,000,000 lbs/day

Nitrogen = 700,000 lbs/day

Total 3,700,000 lbs/day

Reference

40 CFR 415.492

Subpart AW

Other sources of technology based limits:

LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).

Louisiana Water Quality Management Plan for Sanitary Dischargers.

LDEQ Sanitary General Permits

Light Commercial General Permit, LAG480000

Best Professional Judgment

- D. Fee Rate -

1. Fee Rating Facility Type: minor
2. Complexity Type: II
3. Wastewater Type: II
4. SIC code: 2813

- E. Continuous Facility Effluent Flow - 0.210 MGD.

Statement of Basis for  
 Air Liquide Large Industries US LP, Air Liquide - Addis Facility  
 LA0099236, AI No. 29851  
 Page 3

VI. Receiving Waters: an effluent pipe to the Dow Canal, thence to the Mississippi River

1. TSS (15%), mg/L: 53.25
2. Average Hardness, mg/L CaCO<sub>3</sub>: 153.7
3. Critical Flow, cfs: 141,955
4. Mixing Zone Fraction: 0.33333
5. Harmonic Mean Flow, cfs: 366,748
6. River Basin: Mississippi River, Segment No. 070301
7. Designated Uses:

The designated uses are primary contact recreation, secondary contact recreation, fish and wildlife propagation, and drinking water supply.

Information based on the following: LAC 33:IX Chapter 11. Hardness and 15% TSS data come from monitoring station 318 located at the LA 10 ferry landing on the Mississippi River south of St. Francisville (midstream) listed in Hardness and TSS Data for All LDEQ Ambient Stations for the Period of Record as of March 1998, LeBlanc. This information was provided in a memorandum from Todd Franklin to Jennifer Sheppard dated March 3, 2009 (See Appendix B).

VII. Outfall Information:

Outfall 001

- A. Type of wastewater - the continuous discharge of cooling tower blowdown and previously monitored effluents from Internal Outfalls 101 and 201.
- B. Location - at the point of discharge from the Effluent Holding tank next to the Control Room, prior to mixing with other waters, at Latitude 30°19'27", Longitude 91°15'03".
- C. Treatment - treatment of cooling tower blowdown consists of:
  - chemical treatment program
- D. Flow - Continuous Flow 0.210 MGD.
- E. Receiving waters - effluent pipe to the Dow Canal, thence to the Mississippi River.
- F. Basin and segment - Mississippi River Basin, Segment 070301.

Statement of Basis for  
 Air Liquide Large Industries US LP, Air Liquide - Addis Facility  
 LA0099236, AI No. 29851  
 Page 4

Internal Outfall 101

- A. Type of wastewater - the intermittent discharge of oily water separator water which includes process pad stormwater, process pad condensate, wastewater from the pad floor drains, and washdown water.
- B. Location - at the point of discharge from the wastewater sump, prior to combining with any other waters at Latitude 30°19'27", Longitude 91°15'04".
- C. Treatment - treatment of process wastewaters consists of:
  - oil/water separation
- D. Flow - Intermittent, estimated flow of 0.180 MGD.
- E. Receiving waters - effluent pipe to the Dow Canal, thence to the Mississippi River.
- F. Basin and segment - Mississippi River Basin, Segment 070301.

Internal Outfall 201

- A. Type of wastewater - the intermittent discharge of treated sanitary wastewater.
- B. Location - at the point of discharge from the sanitary treatment facility prior to combining with any other waters, at Latitude 30°19'27", Longitude 91°15'03".
- C. Treatment - treatment of sanitary wastewaters consists of:
  - activated sludge
  - chlorination
- D. Flow - Intermittent, estimated flow of 0.0005 MGD.
- E. Receiving waters - effluent pipe to the Dow Canal, thence to the Mississippi River.
- F. Basin and segment - Mississippi River Basin, Segment 070301.

Statement of Basis for  
Air Liquide Large Industries US LP, Air Liquide - Addis Facility  
LA0099236, AI No. 29851  
Page 5

#### VIII. Proposed Permit Limits:

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

##### Summary of Proposed Changes From the Current LPDES Permit:

- A. Internal Outfall 101 - quantity and types of Soaps and/or Detergents will no longer be reported on the Discharge Monitoring Reports. The following Part II requirement (Part II.J) has been established to address the documentation of the use of soaps and/or detergents in washwater:

Air Liquide must document in a monthly inventory record the quantity and type of any Soap and/or Detergent that is used during each calendar month. A Material Safety Data Sheet for each material used shall be submitted upon the initial use of a new product. The permittee must keep the inventory records and the MSDS for each Soap and/or Detergent used onsite and make these items available to LDEQ upon request.

- B. Internal Outfall 101 - The monitoring frequency for Oil & Grease has been increased from 1/month to 1/week based on best professional judgment due to the permittee's compliance history with this parameter (See Section X, Compliance History/ DMR Review).
- C. Internal Outfall 201 - The statistical basis for Fecal Coliform has been changed from weekly average to a daily maximum. This change has been made based on best professional judgment and is consistent with current guidance for this type of discharge.
- D. The standard Part II Storm Water Pollution Prevention Plan (SWPPP) language has been deleted. Air Liquide has been granted authorization to discharge industrial stormwater under the Multi-Sector General Permit (MSGP), LAR05N068, issued on May 24, 2006. The MSGP contains SWPPP requirements that are applicable to the entire facility. It has been determined that retention of the SWPPP within this document would be duplicative of the MSGP requirements, therefore has not been included.

Should Air Liquide terminate coverage under the MSGP, a Part II requirement (Part II.K) has been established requiring a permit modification.

Statement of Basis for  
 Air Liquide Large Industries US LP, Air Liquide - Addis Facility  
 LA0099236, AI No. 29851  
 Page 6

IX. Permit Limit Rationale:

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. TECHNOLOGY-BASED EFFLUENT LIMITATIONS AND CONDITIONS

1. Outfall 001 -the continuous discharge of cooling tower blowdown and previously monitored effluents from Internal Outfalls 101 and 201.

The combined outfall contains the following limitations and monitoring requirements:

PARAMETER	MASS LBS/DAY unless otherwise stated		CONCENTRATION MG/L unless otherwise stated		MONITORING FREQUENCY
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Flow, MGD	Report	Report	---	---	5/week
COD	---	---	---	100	1/week
Oil & Grease	---	---	---	15	1/week
Total Residual Chlorine (TRC)	---	---	---	0.2	1/week
Additives	---	---	---	Report	5/week
pH, standard units	---	---	6.0 (min)	9.0 (max)	1/week

Statement of Basis for  
Air Liquide Large Industries US LP, Air Liquide - Addis Facility  
LA0099236, AI No. 29851  
Page 7

Site-Specific Consideration(s) for Outfall 001

Flow - Established in accordance with LAC 33:IX.2707.I.1.b. Flow shall be monitored 5/week and reported as an estimated value. This requirement has been retained from the current LPDES permit, effective on March 1, 2004.

COD - The 100 mg/L daily maximum limitation has been retained from the current LPDES permit, effective on March 1, 2004. This limitation was originally established in the LWDPS permit, WP5232 and based on best professional judgment. The monitoring frequency of 1/week and sample type of Grab has also been retained from the current LPDES permit.

Oil & Grease - The daily maximum limitation of 15 mg/L has been retained from the current LPDES permit, effective on March 1, 2004. This limitation was originally established in the LWDPS permit, WP5232 and based on best professional judgment. The monitoring frequency of 1/week and sample type of Grab has also been retained from the current LPDES permit.

Total Residual Chlorine (TRC) - The 0.2 mg/L daily maximum limitation has been retained from the current LPDES permit, effective on March 1, 2004. This limitation is consistent with the requirements of the Light Commercial General Permit, Schedule F, for discharges of cooling tower blowdown and has been applied based on best professional judgment. The monitoring frequency of 1/week and sample type of Grab has also been retained from the current LPDES permit.

Additives - This requirement has been retained from the current LPDES permit, effective on March 1, 2004. An inventory calculation including the type and quantity of additive shall be prepared 5/week and attached to the DMRs for this outfall on a quarterly basis.

pH - established in accordance with LAC 33:IX.1113.C.1. The monitoring frequency of 1/week and sample type of Grab has been retained from the current LPDES permit, effective on March 1, 2004.

Statement of Basis for  
 Air Liquide Large Industries US LP, Air Liquide - Addis Facility  
 LA0099236, AI No. 29851  
 Page 8

2. Internal Outfall 101 - the intermittent discharge of oily water separator water which includes process pad stormwater, process pad condensate, wastewater from the pad floor drains, and washdown water.

Air Liquide Large Industries US LP, Air Liquide - Addis Facility is subject to the Best Practicable Control Technology Currently Available (BPT) effluent limitation guideline listed below:

<u>Manufacturing Operation</u>	<u>Guideline</u>
Inorganic Chemical	
Oxygen and Nitrogen Production	40 CFR 415.492 Subpart AW

The following requirements have been established for these wastewaters:

<u>PARAMETER</u>	<u>MASS</u> <u>LBS/DAY</u> <u>unless otherwise</u> <u>stated</u>		<u>CONCENTRATION MG/L</u> <u>unless otherwise</u> <u>stated</u>		<u>MONITORING</u> <u>FREQUENCY</u>
	<u>Monthly</u> <u>Average</u>	<u>Daily</u> <u>Maximum</u>	<u>Monthly</u> <u>Average</u>	<u>Daily</u> <u>Maximum</u>	
Flow, MGD	Report	Report	---	---	5/week
Oil and Grease	3.7	7.4	---	---	1/week
COD	---	---	---	125	1/week
TSS	---	---	---	45	1/week

Site-Specific Consideration(s) for Internal Outfall 101

Flow - Established in accordance with LAC 33:IX.2707.I.1.b. Flow shall be monitored 5/week and reported as an estimated value. This requirement has been retained from the current LPDES permit, effective on March 1, 2004.

Oil & Grease - The compressor condensate process wastewater is regulated by the federal guidelines at 40 CFR 415.492, Subpart AW. The guideline established is production-based monthly average and daily maximum oil and grease limits (0.001 and 0.002 pounds O&G/1000 pounds production, respectively). The oil and grease limits were based on the BPT limits in 40 CFR



Statement of Basis for  
Air Liquide Large Industries US LP, Air Liquide - Addis Facility  
LA0099236, AI No. 29851  
Page 9

Part 415.492. Air Liquide's oil and grease limits are established as follows:

Oxygen Production:

3,000,000 lbs/day

Nitrogen Production:

700,000 lbs/day

Total Production:

3,000,000 lbs/day (oxygen) + 700,000 lbs/day (nitrogen) =  
3,700,000 lbs/day

Monthly Average Oil & Grease Limit:

$0.001 \text{ lbs O\&G} \times 3,700,000 \text{ lbs/day product} / 1,000 = 3.7 \text{ lbs/day}$

Daily Maximum Oil & Grease Limit:

$0.002 \text{ lbs O\&G} \times 3,700,000 \text{ lbs/day product} / 1,000 = 7.4 \text{ lbs/day}$

The monitoring frequency has been increased from 1/month to 1/week based on best professional judgment due to the permittee's compliance history with this parameter (See Section X, Compliance History/ DMR Review).

COD - The 125.mg/L daily maximum limitation has been retained from the current LPDES permit, effective on March 1, 2004. This limitation is consistent with the requirements of the Light Commercial General Permit, Schedule B, for discharges of wastewater and has been applied based on best professional judgment. The monitoring frequency of 1/week and sample type of Grab has also been retained from the current LPDES permit.

TSS - The daily maximum limitation of 45 mg/L has been retained from the current LPDES permit, effective on March 1, 2004. This limitation is consistent with the requirements of the Light Commercial General Permit, Schedule B, for discharges of wastewater and has been applied based on best professional judgment. The monitoring frequency of 1/week and sample type of Grab has also been retained from the current LPDES permit.

Soaps and/or Detergents - new Part II (Part II.J) requirement which reads:

Air Liquide must document in a monthly inventory record the quantity and type of any Soap and/or Detergent that is used during each calendar month. A Material Safety Data Sheet for each material used shall be submitted upon the initial use of a new product. The permittee must keep the inventory records

Statement of Basis for  
 Air Liquide Large Industries US LP, Air Liquide - Addis Facility  
 LA0099236, AI No. 29851  
 Page 10

and the MSDS for each Soap and/or Detergent used onsite and make these items available to LDEQ upon request.

3. Internal Outfall 201 - the intermittent discharge of treated sanitary wastewater.

Sanitary wastewaters (internal or external) are regulated in accordance with LAC 33:IX.711 or 709.B, by BPJ utilizing the sanitary general permits issued by this Office, and the Louisiana Water Quality Management Plan, Areawide Sanitary Effluent Limits Policy and Statewide Sanitary Effluent Limits Policy, as applicable. Concentration limits are used in accordance with LAC 33:IX.2707.F.1.b which states that mass limitations are not necessary when applicable standards and limitations are expressed in other units of measurement. LAC 33:IX.709.B references LAC 33:IX.711 which express BOD<sub>5</sub> and TSS in terms of concentration.

PARAMETER(S)	MASS, LBS/DAY, unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	WEEKLY AVERAGE	MONTHLY AVERAGE	WEEKLY AVERAGE	WEEKLY AVERAGE
Flow, MGD	Report	Report	---	---	1/6 months
BOD <sub>5</sub>	---	---	---	45	1/6 months
TSS	---	---	---	45	1/6 months
Fecal Coliform colonies/100ml	---	---	---	400(*)	1/6 months

(\*) Shall be reported as a daily maximum in lieu of a weekly average.

#### Site-Specific Consideration(s) for Internal Outfall 201

Flow - Established in accordance with LAC 33:IX.2707.I.1.b. Flow shall be monitored 1/6 months and reported as an estimated value. This requirement has been retained from the current LPDES permit, effective on March 1, 2004 and is consistent with the requirements of Class I Sanitary General Permit.

BOD<sub>5</sub> and TSS - Weekly average limitations have been retained from the current LPDES permit, effective on March 1, 2004 and are consistent with the requirements of Class I Sanitary General Permit. The monitoring frequency of 1/6 months and sample type of Grab has also been retained from the current LPDES permit.

Statement of Basis for  
 Air Liquide Large Industries US LP, Air Liquide - Addis Facility  
 LA0099236, AI No. 29851  
 Page 11

Fecal Coliform - 400 colonies/ 100 ml limitation has been retained from the current LPDES permit, effective on March 1, 2004 and is consistent with the requirements of Class I Sanitary General Permit and current guidance for reporting a daily maximum value in lieu of a weekly average for this parameter. The monitoring frequency of 1/6 months and sample type of Grab has also been retained from the current LPDES permit.

Please note that the statistical basis for Fecal Coliform has been changed from weekly average to a daily maximum. This change has been made based on best professional judgment and is consistent with current guidance for this type of discharge.

B. WATER QUALITY-BASED EFFLUENT LIMITATIONS

Analytical results from the permittee's application were screened against state water quality numerical standard based limits by following guidance procedures established in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008. Calculations, results, and documentation are given in Appendix A.

In accordance with LAC 33:IX.2707.D.1/40 CFR § 122.44(d)(1), the existing discharge was evaluated in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008, to determine whether pollutants would be discharged "at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." Calculations, results, and documentation are given in Appendix A.

The following pollutants received water quality based effluent limits:

POLLUTANT(S)
None

Minimum quantification levels (MQL's) for state water quality numerical standards-based effluent limitations are set at the values listed in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008.

Statement of Basis for  
 Air Liquide Large Industries US LP, Air Liquide - Addis Facility  
 LA0099236, AI No. 29851  
 Page 12

They are also listed in Part II of the permit.

#### TMDL Waterbodies

The discharges from outfall 001 including cooling tower blowdown, process pad wastewater, process pad condensate, wastewater from the pad floor drains, washdown water, oily water separator water, and treated sanitary wastewater are to effluent pipe to the Dow Canal, thence to the Mississippi River, Segment No. 070301. The Mississippi River is not listed on the 2006 Final Integrated Report as being impaired. Therefore, no additional requirements have been established in this permit.

Monitoring frequencies for water quality based limited parameters are established in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008.

#### Site-Specific Consideration(s)

None

#### X. Compliance History/DMR Review:

A compliance history/DMR review was done covering the period of June 2004 to February 2009.

##### A. DMR Excursions Reported

DATE	PARAMETER	OUTFALL	REPORTED VALUE		PERMIT LIMITS	
			MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM
5/06/04	COD	001	---	137 mg/L	---	100 mg/L
6/30/06	Oil & Grease	101	5.98 lbs/day	18.26 lbs/day	3.7 lbs/day	7.4 lbs/day
6/30/06	BOD5	201	---	47 mg/L weekly average	---	45 mg/L weekly average
9/30/06	Oil & Grease	101	9.01 lbs/day	9.01 lbs/day	3.7 lbs/day	7.4 lbs/day
9/26/08	Oil & Grease	101	5.84 lbs/day	---	3.7 lbs/day	---

Statement of Basis for  
Air Liquide Large Industries US LP, Air Liquide - Addis Facility  
LA0099236, AI No. 29851  
Page 13

B. Inspections

June 23, 2004 - The last Compliance Evaluation Inspection revealed multiple permit limitation exceedances at this facility: 6 TOC excursions reported for Outfall 001, 2 TRC excursions reported for Outfall 001, 1 Fecal Coliform excursion reported for Outfall 201, and 1 TSS excursion for Outfall 201.

C. Enforcement History - There are no open enforcement actions for this facility.

XI. "IT" Questions

This applicant is not required to submit "IT" Questions in accordance with La. R.S. 30:2018(A).

XII. ENDANGERED SPECIES

The receiving waterbody, Subsegment 070301 of the Mississippi River Basin, has been identified by the U.S. Fish and Wildlife Service (FWS) as habitat for the Pallid Sturgeon, which is listed as a threatened and/or endangered species. LDEQ has not submitted this draft permit to the FWS for review in accordance with a letter dated 11/17/08 from Rieck (FWS) to Nolan (LDEQ). As set forth in the Memorandum of Understanding between the LDEQ and the FWS, and based on information provided by the FWS, LDEQ has determined that the issuance of the LPDES permit is not likely to have an adverse effect upon the Pallid Sturgeon. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. Therefore, the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

XIII. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

XIV. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to permit for the discharge described in the application.